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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,938	11/26/2003	Lars Severinsson	03370-P0061A	9635
24126	7590	04/07/2005	EXAMINER	
ST. ONGE STEWARD JOHNSTON & REENS, LLC			BUTLER, DOUGLAS C	
986 BEDFORD STREET			ART UNIT	
STAMFORD, CT 06905-5619			PAPER NUMBER	
			3683	

DATE MAILED: 04/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/722,938

Applicant(s)

SEVERINSSON, LARS

Examiner

Douglas C. Butler

Art Unit

3683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) 4-7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-7 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)


- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Attachment A.

Art Unit: 3683

### **DETAILED ACTION**

1. Note that no priority papers have been filed in this application. The examiner has accessed applicant's WO 02/096733 at the "online Public File Inspection" at [www.epoline.org](http://www.epoline.org). No priority papers are of record at the International bureau. Note Attachment A.

2. Claims more specific to instant Figs. 2-3 would receive favorable consideration provided the total structure is recited with the elements recited. It appears to the examiner that much of the prior art currently applicable as indicated below would no longer be applicable if the independent claim included the invention pertaining as it pertains to the environment of electric motor, thrust rod gear 3 of the electric motor with the sensor "being used to stop brake application by means of the electric motor when a desired brake force has been attained as per paragraphs 15-17 of the instant specification. To merely define a "force sensor" in the current claims does not define patentable subject matter. Note the "electric motor" if claimed should be shown as per 37 CFR 1.83(a).

 3. An action on the merits <sup>f</sup><sub>o</sub><sub>A</sub> claims 1-3 considered readable on Species B (Figures 2-3) is included in this office action with claims 4-7 being withdrawn from consideration. 37 C.F.R. § 1.142(b). Election was made without traverse in the response filed 07/15/2004.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There are no clear antecedent bases in the claims for "the applied brake force" of claim 1, line 2; "the reaction force" of claim 1, line 3 and "its region" of claim 2, last line.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Petersen (US 4784442).

Fig. 1 of Petersen discloses a device for determining brake force including a force sensor 2 (column 2, lines 60-62) remotely located from an enclosed elastically deformable medium 15 by interposed push rod 17. Note cup 18 of Fig. 1 of Petersen.

8. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 99/37939 to Rinsma et al, of record.

The examiner requests applicant review the exceedingly broad scope of at least claim 1 in that Fig. 3 of Rinsma (WO 99/37939) discloses as per page 6, lines 3-15 states that:

"In the third embodiment, shown in figure 3, a load measuring device 50 has been applied. This may for instance be a piezoelectric sensor. The load measuring

Art Unit: 3683

device 50 is connected to a measuring channel 51, which is connected to the internal space 52 of the pressure pad 53.

Through a signal cable 54, the load measuring device 50 is connected to a control unit for further processing of the data thus obtained. As shown in the figure, the signal cable 54 is guided through the internal hollow space of the electric motor 7.

The internal space 52 and the measuring channel 51 may be filled with a thermal oil which is resistant to the high temperatures which may develop as a result of the friction between the brake pad 5 and the brake disc 6. Furthermore, a ceramic pad 55 may be arranged between the pressure pad 53 and the head of the piston 35, so as to thermally insulate the thermal oil as a further precaution."

Fig. 3 of Rinsma et al discloses, re instant claim 1, a remote force sensor 50, elastically deformable medium (fluid) 52, and "push rod" 24.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rinsma (WO 99/37939).

Claim 3 recites a conventional O-ring which is not a patentable advance over Rinsma. It would have been obvious to provide the push rod with a conventional O-ring for alignment, guiding, etc., since the presence or absence thereof would have been within the level of an artisan in the art. See paragraphs 32-34.

Art Unit: 3683

11. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Steiner (US 5,586,814), newly cited.

Fig. 2 of Steiner (814) discloses a deformable brake force reaction member 81, push rod 78 and sensor 82. As stated in column 8, lines 13-23 of Steiner (814):

“Microswitch 82 is designed as a travel-dependent switching element in the illustrated embodiment, mounted on a cross brace 84 permanently attached to the reaction piston 78, running radially with respect to lengthwise axis 83 of braking force amplifier 7, and executing its axial displacement. The microswitch 82 responds only to the axial movement of the reaction piston 78 relative to the pressure rod 76 of the braking force amplifier 7, whose travel, because of the elastic support of the reaction piston 78 on the pressure rod 76 provided by the reaction disk 81, is a measure of the force with which the driver actuates the brake pedal 6.”

See also column 7 lines 49-65 which state:

“ A exemplary sensor suitable for recognizing the driver's wishes after termination of an automatically controlled full **brake** application is a **force sensor** comprising a strain gauge system, not shown, whose output signal is a measure of elastic deformation, for example that which the **brake** pedal undergoes when actuated. It could also sense another element of the force ... an elastically flexible reaction disk 81 ...”

12. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Inagawa et al (US 5,445,441).

Art Unit: 3683

Note Fig. 1 of Inagawa et al with force sensor 3, deformable medium (coil spring) and a push rod between the deformable medium (spring) and sensor 3.

13. Note force sensors 22 of Ohta et al (US 4,623,044) and Ohta et al (US 4602702).

14. Severinsson (US 4953669) discloses a deformable brake force sensor arrangement at 27, 30, of Fig. 1. See column 3, lines 51+ which state:

“An elastic disc 30 (of rubber or similar material) is confined between the force sensing cup 27 and the mechanism lid 3. A pressure transducer 31 is arranged in the lid 3 in contact with the elastic disc 30. By the design with a smaller force receiving area of the transducer 31 than the area of the force sensing cup 27, only a fraction of the total force from the spindle 15 is transmitted to the transducer 31, which may be of any conventional design and transmits an electric signal depending on the pressure or force exerted thereon.”

Applicant's patent (US 5410911) is similar with deformable element 11 cooperating with a force sensor. Sensing pressure is through medium deformation is in effect sensing force.

15. Pluta et al (US 5,563,355) discloses a force sensor.

16. Note force sensor 23 of Fig. 1 of Rieth et al (US 6405836).

17. Note brake force sensor 21 with push rod 23 of Bohm et al (6,000,507).

18. Reinecke (US 4,818,036) discloses a force sensor 3 (see column 2, lines 33-50).

19. Note brake force sensor 38 of the single figure of Melinat (US 4,395,883). See column 1, lines 63-68.

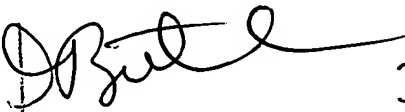
20. Beuerle et al (US 2004/0163900 A1) discloses a force sensor 80.

Art Unit: 3683

21. Gilles et al (US 2004/0195055 A1) discloses a brake force sensor at 42. Note force sensor 23 of Fig. 1 of Schwarz et al (US 6230854). See column 4, lines 20-21 of Schwarz et al.

22. Applicant's arguments have been considered.

23. Any inquiry concerning this communication should be directed to Exmr Butler at telephone number 703-308-2575.

 3/25/05  
DOUGLAS C. BUTLER  
PRIMARY EXAMINER  
AU3683

Butler/vs  
March 23, 2005





Attachment A

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(e.g. 99203729 or EP19990402065 or WO1998US04141)

Enter publication number:

(e.g. EP1023455 or WO0133678)

Applications viewed:



Date	Documents for publication number <u>WO02096733</u>	Procedure	Pages
2004-05-19	<u>Final instructions in case of ADWI/REFU</u>	Search/Exam	1 <input type="checkbox"/>
2004-02-09	<u>FFEE/SFEE/DEST/EXAM not paid, TRAN not filed/ADWI</u>	Search/Exam	4 <input type="checkbox"/>
2003-10-10	<u>Info on entry into regional phase (pages 1-2)</u>	Search/Exam	3 <input type="checkbox"/>
2003-09-26	<u>Copy of the International preliminary examination report</u>	Search/Exam	4 <input type="checkbox"/>
2002-12-05	<u>International publication pamphlet</u>	Search/Exam	11 <input type="checkbox"/>
2002-12-05	<u>Copy of the International Search report</u>	Search/Exam	3 <input type="checkbox"/>
Date	Documents for publication number <u>WO02096733</u>	Procedure	Pages



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